

example, and not limitation, such computer-readable media may include RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium that may be used to store desired program code in the form of instructions or data structures and that may be accessed by a computer. Also, any connection can be properly termed a computer-readable medium. Disk and disc, as used herein, includes compact disc (CD), laser disc, optical disc, digital versatile disc (DVD), floppy disk, and Blu-ray disc where disks usually reproduce data magnetically, while discs reproduce data optically with lasers. Combinations of the above can also be included within the scope of computer-readable storage media. Additionally, the operations of a method or algorithm may reside as one or any combination or set of codes and instructions on a machine readable storage medium and computer-readable storage medium, which may be incorporated into a computer program product.

**[0172]** Certain features that are described in this specification in the context of separate implementations also can be implemented in combination in a single implementation. Conversely, various features that are described in the context of a single implementation also can be implemented in multiple implementations separately or in any suitable subcombination. Moreover, although features may be described above as acting in certain combinations and even initially claimed as such, one or more features from a claimed combination can in some cases be excised from the combination, and the claimed combination may be directed to a subcombination or variation of a subcombination.

**[0173]** Similarly, while operations are depicted in the drawings in a particular order, this should not be understood as requiring that such operations be performed in the particular order shown or in sequential order, or that all illustrated operations be performed, to achieve desirable results. In certain circumstances, multitasking and parallel processing may be advantageous. Moreover, the separation of various system components in the implementations described above should not be understood as requiring such separation in all implementations, and it should be understood that the described program components and systems can generally be integrated together in a single software product or packaged into multiple software products.

**[0174]** Instructions refer to computer-implemented steps for processing information in the system. Instructions can be implemented in software, firmware or hardware and include any type of programmed step undertaken by components of the system.

**[0175]** As can be appreciated by one of ordinary skill in the art, each of the modules of the invention may comprise various sub-routines, procedures, definitional statements, and macros. Each of the modules are typically separately compiled and linked into a single executable program. Therefore, the description of each of the modules is used for convenience to describe the functionality of the system. Thus, the processes that are undergone by each of the modules may be arbitrarily redistributed to one of the other modules, combined together in a single module, or made available in a shareable dynamic link library. Further each of the modules could be implemented in hardware. A person of skill in the art will understand that the functions and operations of the electrical, electronic, and computer components

described herein can be carried out automatically according to interactions between components without the need for user interaction.

**[0176]** The foregoing description details certain embodiments. It will be appreciated, however, that no matter how detailed the foregoing appears in text, the development may be practiced in many ways. It should be noted that the use of particular terminology when describing certain features or aspects of the development should not be taken to imply that the terminology is being re-defined herein to be restricted to including any specific characteristics of the features or aspects of the development with which that terminology is associated.

**[0177]** While the above detailed description has shown, described, and pointed out novel features of the development as applied to various embodiments, it will be understood that various omissions, substitutions, and changes in the form and details of the device or process illustrated may be made by those skilled in the technology without departing from the intent of the development. The scope of the development is indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. A voting system comprising:

a blockchain access layer configured to:

receive input from a user operated mobile computing device, the input comprising a computer readable code scanned from a physical ballot, ballot selections, and an electronic signature; and

receive input from an election official system, the input comprising a ballot and an election identifier;

a first database in communication with the block chain access layer, the first database configured to receive and store the ballot selections and the electronic signature from the blockchain access layer;

a second database in communication with the block chain access layer, the second database configured to:

receive a vote identification from the blockchain access layer, the vote identification generated by the blockchain access layer in response to receive the ballot selections and electronic signature from the mobile computing device;

store a first pointer to a location of the ballot selections in the first database; and

store a second pointer to a location of the electronic signature in the first database; and

a blockchain database configured to receive the vote identification from the second database and to receive the ballot selections from the blockchain access layer, wherein the block chain database receives the vote identification and the ballot selections when the block chain access layer receives an electronic signature confirmation from the election official system.

2. The voting system of claim 1, wherein the ballot selections and the electronic signatures are stored in separate structures in the first database.

3. The voting system of claim 2, wherein the first database has no referential data associating the ballot selections with the electronic signatures stored in the separate structures in the first database.